State of Utah

Department of
Environmental Quality
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Acting Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

DAQE-IN0103540018-08

March 11, 2008

Martha D. Shub
Director, Environmental Healt and Safety
University of Utah
125 South Forth Douglas Blvs
Salt Lake City, Utah 84112

Dear Ms. Shub:

Re: Intent to Approve: Modification to Approval Order DAQE-AN0103540016-07 to Add Four Emergency Generators, Salt Lake County – CDS A; NA; MAINT; NSPS; TITLE V MAJOR
Project Code: N010354-0018

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,

Ty Howard, Manager
New Source Review Section

TH:NM:kw

cc: Salt Lake Valley Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Modification to Approval Order DAQE-AN0103540016-07 to Add Four Emergency Generators

Prepared By: Nando Meli, Engineer
(801) 536-4052
Email: nmeli@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0103540018-08

Date: March 11, 2008

University of Utah
Source Contact
Judy Moran
(801) 585-1617

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

Abstract

The University of Utah located in Salt Lake City, Salt Lake County, Utah, submitted a Notice of Intent to modify Approval Order DAQE-AN0103540016-07 to add four emergency generators to the campus. The generators will be installed in the Humanities Building, North Medical Towers Building 701, Research Park Building 874, and School of Social Studies Work Building 26. The diesel-fired emergency generators will only be used for electricity generating purposes when there is a power outage. All of the generators will be newly installed except the generator for the Research Park building. This building was purchased by the University of Utah with the generator already installed.

Salt Lake City, Salt Lake County is a Non-attainment area of the National Ambient Air Quality Standards (NAAQS) for PM_{10} and SO_2, and is a Maintenance area for CO and Ozone. New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Available Control Technology (MACT) regulations do not apply to this modification. Title V of the 1990 Clean Air Act applies to this source. The Title V operating permit for this source shall be amended prior to the operation of the equipment. This Approval Order will go through the enhanced NSR process. The emissions, in tons per year, will change as follows: PM_{10} (+) 0.04, SO_2 (+) 1.00, NO_x (+) 2.98, CO (+) 0.30, and VOC (+) 0.19. The changes in emissions will result in the following, in tons per year, potential to emit totals: PM_{10} = 27.58, NO_x = 163.68, SO_2 = 22.17, CO = 185.63, VOC = 21.17 and 4.06 HAPS.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in the Salt Lake Tribune and Deseret News on March 16, 2008. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

Site Office	Corporate Office Location
The University of Utah	The University of Utah
1705 E. South Campus Drive	201 Presidents Circle, Rm 209
Salt Lake City, Utah 84112	Salt Lake City, Utah 84113
Phone: (801) 581-6590	Phone: (801) 581-6404
Fax: (801) 585-7240	Fax: (801) 585-4972

The equipment listed in this AO shall be operated at the following location:

The University of Utah, Salt Lake City, Salt Lake County

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
4,512.8 kilometers Northing; 429.4 kilometers Easting; Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.

5. All records referenced in this AO or in applicable NSPS standards, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the five-year period prior to the date of the request. Records shall be kept for five years.

6. University of Utah (U of U) shall install and operate the diesel-fired generators in the Humanities Building and buildings #26, #701 and 874, and shall conduct its operations of the equipment listed in this AO in accordance with the terms and conditions of this AO, which was written pursuant to the U of U's Notice of Intent submitted to the Division of Air Quality (DAQ) on January 18, 2008 and additional information submitted to the DAQ on January 29, 2008, January 30, 2008, February 7, 2008, February 29, 2008, and March 3, 2008.

7. This AO shall replace the AO (DAQE-AN0103540016-07 dated November 8, 2007.

8. The approved installations shall consist of the following equipment or equivalent*:

A. **Misc. Parts Washers (subject to R307-335-2)**

Unit Description: Miscellaneous parts washers located on campus using VOC containing solvents and subject to R307-335-2. Does not include parts washers using citrus based solvents.

B. **Building 303-High Temperature Water Plant**

1) **High Temperature Water Plant pre NSPS Boilers**

Unit Description: Three pre-New Source Perfromance Standards (NSPS) boilers located in Building 303 that use natural gas only. Boilers #3, #4 and #5 are rated at up to 105 x 10^6 Btu/hr (MMBtu/hr), each.

2) **High Temperature Water Plant Cogeneration Unit**

Unit Description**:** One (1) natural gas fired Solar Taurus 70 T7800S (Solar's SoLoNox ^{TM}) turbine with one (1) WHRU with duct burner rated at 85 MMBtu/hr located in building 303. Natural gas turbine is site rated at 7.23 MW with heat input of 72.78 MMBtu/hr at 0 ^{0}F and 50% relative humidity. Cogeneration unit Stack height is 55 feet with 4.5 feet diameter. Gas turbine is Subject to NSPS, 40 Code of Federal Regulations (CFR), Part 60, Subpart KKKK and duct burner is subject to NSPS, 40 CFR, Part 60, Subpart Dc. Located in Building 303.

C. **University Hospital Boilers**

Unit Description: Three pre-NSPS natural gas/diesel fired boilers supporting the University Hospital. Two boilers rated at up to 10.5 MMBtu/hr located in Building 521/525. One boiler rated up to 13.5 MMBtu/hr located in Building 526.

D. **Miscellaneous Natural Gas Fired Generators**

Unit Description: Miscellaneous natural gas fired emergency generators with a total combined rating of 300 kW. Currently installed natural gas-fired generators are located at Buildings 685, 606, 500, 350, 67, 64, and 11.

E. **Diesel-Generators**

Unit Description: Emergency diesel generators with combined capacity of up to 14,935 kW supporting the following buildings: 4, 7, 13, 14, 19, 26, 28, 35, 49, 57, 64, 66, 82, 84, 85/87, 95, 205, 210, 213, 301, 303, 305, 347, 500, 521/525/526, 533, 540, 570, 585, 587, 697, 701, 853, and Humanities building.

F. **Building 302 NSPS Boilers**

Unit Description: Three NSPS boilers (40 CFR, Part 60 Subpart Dc) located in Building 302. Boilers all have 15% flue gas recirculation, and are fired on natural gas and diesel as a backup fuel. Rating for each boiler is up to 87.5 MMBtu/hr.

G. **Building 302 Diesel Emergency Generator**

Unit Description: One diesel fired emergency generator located at Building 302 with a rating of up to 800 kW.

H. **Student Housing and Rice-Eccles Stadium Natural Gas-Fired Equipment-Buildings 32 & 33**

Unit Description: Includes all natural gas fired equipment located in buildings 802-804, 806, 807, 810-815, 820-822, 825-830 in student housing; and Rice-Eccles Stadium complex, buildings 32 & 33.

1) **Rice-Eccles Stadium (Building 32) West NSPS Boiler**

Unit Description: Natural gas fired boiler rated at up to 14.7 MMBtu/hr. Subject to NSPS, 40 CFR, Part 60, Subpart Dc.

2) **Rice-Eccles Stadium (Building 33 Clark Football Center) Small Boiler**

Unit Description: Natural gas fired boiler rated at 5.25 MMBtu/hr located in building 33.

I. **Rice-Eccles Stadium (Building 32) Emergency Diesel Generator**

Unit Description: One diesel fired emergency generator rated at up to 900 kW (1337 bhp).

J. **Student Housing Emergency Diesel Generators**

Unit Description: Three diesel fired emergency generators identified as follows: Building 800/801 (University Guesthouse), rated up to 66 kW (68 bhp); Building 815 (Chase N. Peterson Heritage Center), rated up to 66 kW (68 bhp); Buildings 821/822 (Benchmark Plaza 821 and 822), rated up to 208 kW (317 bhp).

K. **Paint Booth and Print Plant Combined**

Unit Description: Includes the paint booth located in Building 350 and equipment located in the printing plant, also located in Building 350.

1) **Print Plant**

Unit Description: Printing operations including letter and offset presses.

2) **Paint Booth**

Unit Description: Painting operation is used primarily for refinishing wood furniture. Equipped with particulate filters.

L. **Building 555 - Huntsman Cancer Institute**

Unit Description: Includes two NSPS Boilers (rated at up to 16.8 MMBtu/hr each), two small boilers (up to 5 MMBtu/hr each), and two diesel emergency generators (rated at up to 2,000 kW and 750 kW).

1) **Huntsman Cancer Institute - NSPS Boilers**

Unit Description: Two natural gas/diesel fired boilers, each rated at up to 16.8 MMBtu/hr. Subject to NSPS, 40 CFR, Part 60, Subpart Dc.

2) **Huntsman Cancer Institute - Small Boilers**

Unit Description: Two small natural gas/diesel fired boilers, each rated at up to 5 MMBtu/hr. Located in Building 555.

3) **Huntsman Cancer Institute - Diesel Emergency Generators**

Unit Description: Two diesel-fired emergency generators rated at up to 750 kW and 2,000 kW.

M. **Building 556 - Huntsman Cancer Hospital**

1) **Huntsman Cancer Hospital: Small Boilers 1-2**

Unit Description: Two boilers with heat input ratings of up to 6 MMBtu each, fired on either natural gas or fuel oil.

2) **Huntsman Cancer Hospital: Emergency Diesel Generators**

Unit Description: Two diesel fired emergency generators with ratings of up to 1,500 kW each.

N. **Building 565 - Emma Eccles Jones Medical Research Center**

1) **Emma-Eccles-Jones Medical Research Center: NSPS Boiler**

Unit Description: One boiler with input rating of up to 19 MMBtu, fired on natural gas. Located in building 565.

2) **Emma-Eccles-Jones Medical Research Center: Emergency Diesel Generator**

Unit Description: One diesel fired emergency generator rated up to 1,000 kW. Located in building 565.

O. **Building 550 – Clinical Neurosciences Center**

1) **Building 550 – Clinical Neurosciences Center: Emergency Diesel Generator**

Unit Description: One diesel fired emergency generator rated at up to 500 kW. Located outside Building 550.

2) **Building 550 – Clinical Neurosciences Center: Out of Service Boiler**

Unit Description: A boiler listed for identification purposes that is on-site but out of service.

P. **Building 523 - John A. Moran Eye Center**

1) **John A. Moran Eye Center: Emergency Diesel Generators**

Unit Description: Two diesel fired emergency generators rated up to 400 kW and up to 1250 kW. Located in building 523.

2) **John A. Moran Eye Center: Natural Gas Fired Small Boiler**

Unit Description: One natural gas fired boiler rated at up to 8.165 MMBtu/hr. Located in building 523.

Q. **Building 575 - Health Sciences Education Building**

Health Sciences Education Building: Emergency Diesel Generators

Unit Description: One diesel fired emergency generator rated at up to 400 kW. Located in building 575.

R. **Olympic Cauldron**

Unit Description: This is a seldom used ornamental monument from the Salt Lake 2002 Olympics**

S. **University Hospital Ethylene Oxide Sterilizer**

Unit Description: Two small sterilization units. These are small sterilization units, using less than 1 ton of ethylene oxide in any consecutive 12-month period, each. On December 28, 2008, this unit will be subject to the emission standards of 40 CFR 63.10382 to 63.10448, Subpart WWWWW (National Emission Standards for Hospital Ethylene Oxide Sterilizers).

T. **Building 587**

Building 587 Incinerator

1) Unit Description: Incinerator for the combustion of pathological waste, low level radioactive waste, or chemotherapeutic waste.

Building 587 NSPS Natural Gas Boilers

2) Unit Description: Two natural gas fired boilers with heat input ratings of 13.501 MMBtu, each. Subject to NSPS, 40 CFR, Part 60, Subpart Dc. Located in Building 587.

U. **Fume Hoods**

Unit Description: Fume hoods located in the Art Department and in various labs throughout the campus.**

V. **Small Fuel Storage Tanks**

Unit Description: Various fuel tanks located throughout the campus; each tank has a storage capacity of 10,000 gallons or less. No unit-specific applicable requirements.**

W. **Underground Fuel Storage Tanks**

Unit Description: Located at University Hospital. Two Diesel tanks approximately 20,000 gallons each, one diesel tank approximately 30,000 gallons, and one jet fuel tank approximately 12,000 gallons **(NSPS)**.

X. **Buildings 702 – Medical Towers Emergency Generator**

Unit Description: One diesel fired emergency generator rated up to 180 kW serving building 702.

Y. **Building 12 – Sutton Building Emergency Generator**

Unit Description: One diesel fired emergency generator rated up to 500 kW. Located at Building 12.

Z. **Building 853 – Health Profession Education Small Boiler**

Unit Description: One natural gas fired 8.369 MMBtu/hr boiler. Located in building 853.

AA. **Building 1 – Park Building Emergency Generator**

Unit Description: One diesel fired emergency generator rated up to 668 kW.

BB. **Building 350-Carpentry Shop**

Unit Description: One Carpentry Shop dust collector.

* Equivalency shall be determined by the Executive Secretary.
** Listed for identification only.

9. U of U shall notify the Executive Secretary in writing when the installation of the generators listed in Condition #8.E for the Humanities building and buildings 26, 701, and 874, have been completed and are operational. To insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the construction and/or installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation and may revoke the AO in accordance with R307-401-18.

Site-wide Limitations and Test Procedures

10. At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any equipment approved under this AO including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.

11. The permittee shall burn #2 diesel/fuel oil or better in all equipment permitted for diesel/fuel oil combustion. Fuel receipts shall be maintained to demonstrate usage of the following fuels: Grade Low Sulfur No. 1-D and Grade Low Sulfur No. 2-D.

12. Unless stated otherwise in this permit, emergency generators shall be used for electricity production only during periods when electric power from the utilities is interrupted. Records shall be maintained for each generator including: dates of use, reason for use (maintenance, emergency, other), and the duration in hours of the generator usage.

13. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.

14. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

Unit Specific Limitations and Test Procedures:

Conditions on Misc. Parts Washers (that use volatile organic compound (VOC) containing solvents)

15. Each parts washer using solvents containing volatile organic compounds (VOC) shall comply with R307-335.

Conditions on Building 303 Boilers, Cogeneration Unit, University Hospital Boilers, Miscellaneous Equipment, and Diesel Generators

Conditions on Building 303 – High Temperature Water Plant 3-5 Boilers

16. The following consumption limits shall not be exceeded:

    A. 698 MM SCF of natural gas per rolling 12-month period for Building 303 Boilers 3-5 before the cogeneration unit becomes operational.

    B. 25 MM SCF of natural gas per rolling 12-month period for Building 303 Boilers 3-5 after the cogeneration unit becomes operational.

C. 200 MM SCF of natural gas per rolling 12-month period for the University Hospital Boilers, and Miscellaneous Equipment (including two 13.501 MMBtu/hr boilers in Building 587, one 8.37 MMBtu/hr boiler in Building 853, and 8.165 MMBtu/hr in Building 523 and does not include cogeneration unit).

Fuel consumption shall be determined based on a 12-month rolling total calculated by 20th day of each month using the previous 12 months data. Monthly natural gas consumption for Boilers #3, #4 and #5 shall be determined using gas meters installed on each boiler. Monthly natural gas consumption for other boilers and generators shall be determined using monthly billings.

17. Visible emissions shall be no greater than 10 percent opacity for natural gas fired equipment and 20% for diesel fired equipment.

Conditions on Building 303 - High Temperature Water Plant Boilers 3-5 Before The Cogeneration Unit is Operational

18. Emissions of the specified pollutants from Building 303 Boilers 3-5 shall not exceed the amounts listed in 18.A and shall be tested according to 18.B- 18.H:

A. For each boiler while burning natural gas: NO_x 25.0 lb/hr and 187 ppmdv (3% O_2 dry).

B. Stack testing frequency: at least every 3 years based on the date of the last stack test.

C. Sample location: 40 CFR 60, Appendix A, Method 1.

D. Volumetric flow rate: 40 CFR 60, Appendix A, Method 2.

E. Stack testing methods: 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D or 7E.

F. Calculations: To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

G. Heat input capacity during testing: The heat input capacity during testing shall be no less than 90% of the maximum heat input capacity achieved in the previous three (3) years.

H. Notification: At least 30 days prior to conducting stack testing, the permittee shall notify the Executive Secretary of the date, time and place of such testing. A source test protocol shall be submitted along with the testing notification sent to the Executive Secretary. The source test protocol shall be approved by the Executive Secretary prior to testing. The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary. The

pretest conference shall include representation from the permittee, the tester, and the Executive Secretary. Sample location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An OSHA or MSHA approved access shall be provided to the test location. The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

High Temperature Water Plant Cogeneration Unit

Conditions on High Temperature Water Plant Natural Gas Fired Gas Turbine and Natural Gas Duct Burner*

19. The consumption limit of 281 MM SCF of natural gas per rolling 12-month period shall not be exceeded for the natural gas duct burner:

    Monitoring & Recordkeeping:

    Fuel consumption shall be determined based on a 12-month rolling total calculated by 20th day of each month using the previous 12 months data. Monthly natural gas consumption for the duct burner shall be determined using gas meters installed on the duct burner natural gas supply gas line.

20. Emissions of the specified pollutants from Building 303 natural gas fired gas turbine shall not exceed the amounts listed in 20.A – 20.D and shall be tested according to 20.E – 20.K:

    A. Natural gas turbine only: NO_x 2.65 lb/hr and 9 ppmdv (15% O_2 dry) per 3-test run average.

    B. Natural gas turbine only: CO 4.48 lb/hr and 25 ppmdv (15% O_2 dry) per 3-test run average.

    C. Natural gas turbine and WHRU duct burner: NO_x 8.97 lb/hr and 15 ppmdv (15% O_2 dry) per 3-test run average.

    D. Natural gas turbine and WHRU duct burner: CO 10.84 lb/hr and 30 ppmdv (15% O_2 dry) per 3-test run average.

    E. Initial compliance testing for natural gas turbine, and initial compliance testing natural gas turbine and duct burner are required. The initial test date shall be performed within 60 days after achieving the maximum heat input capacity production rate at which the affected facility will be operated and in no case later than 180 days after the initial start up of a new emission source.

    F. Stack testing frequency for gas turbine alone and for gas turbine and WHRU duct burner combined: at least every year based on the date of the last stack test. The Executive Secretary may require testing at any time.

G. Sample location: 40 CFR 60, Appendix A, Method 1.

H. Volumetric flow rate: 40 CFR 60, Appendix A, Method 2.

I. Stack testing methods for Nitrogen Oxides (NO_x): 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D or 7E.

J. Stack testing methods for carbon monoxide (CO): 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the Executive Secretary.

K. Calculations: To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

L. Notification: At least 30 days prior to conducting stack testing, the permittee shall notify the Executive Secretary of the date, time and place of such testing. A source test protocol shall be submitted along with the testing notification sent to the Executive Secretary. The source test protocol shall be approved by the Executive Secretary prior to testing. The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary. The pretest conference shall include representation from the permittee, the tester, and the Executive Secretary. Sample location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An OSHA or MSHA approved access shall be provided to the test location.

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

Monitoring & Recordkeeping:

All required testing/monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, or report. Support information includes all calibration and testing records, and copies of all reports required by this permit.

For testing/monitoring requirements, the source shall record the following information:

1) The date, place as defined in this permit, and time of sampling or measurement.

2) The date analyses were performed.

3) The company or entity that performed the analyses.

4) The analytical techniques or methods used.

5) The results of such analyses.

6) The operating conditions as existing at the time of sampling or measurement.

21. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

22. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart A: General Provisions.

23. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart KKKK: Standards of Performance for Stationary Combustion Gas Turbines.

*If U of U supplies more than one third of the gas turbine potential electrical output capacity to any power distribution system for sale, the turbine will be considered as utility unit and as such will be classified as an unaffected unit by the Acid Rain Program regulations, except for 40 CFR 72.2 through 72.7 and 72.10 through 72.13. An Acid Rain permit would not be required, nor acid rain emission monitoring and reporting, but the source will be subject to submittal of a New Unit Exemption form to the permitting authority by the end of first calendar year for which the exemption is to apply.

Conditions on University Hospital Boilers

24. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

25. Fuel for the University hospital boilers shall be limited to natural gas with the exception of fuel oil combusted during maintenance firings, boiler systems and natural gas pipe lines maintenance and repair and for periods of natural gas curtailment. Natural gas curtailment is defined as a period when the natural gas supplier imposes a curtailment or interruption of service and the curtailment is involuntary and beyond the control of the permittee. Maintenance firings shall not exceed one percent of the previous year's annual Btu consumption. In addition, maintenance firings shall be scheduled between March 1st and October 31st.

Records documenting fuel usage shall be kept showing: dates that natural gas was fired, dates that fuel oil was fired, the duration in hours that fuel oil was fired, the amount of fuel oil consumed, and the reason for firing fuel oil.

Records documenting the total Btu's of all fuel fired annually, including the total Btu's of all fuel fired for maintenance purposes shall be maintained. That information shall be used to demonstrate that annual boiler maintenance firings do not exceed one percent of the previous year's annual Btu consumption as follows:

Annual boiler maintenance firings as a percentage of annual Btu consumption = (Total Btu's of fuel fired for annual maintenance/Total annual Btu's of all fuel fired in the previous year)* 100.

Conditions on Miscellaneous Equipment

26. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Conditions on Diesel-Generators

27. Visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Building 302 NSPS Boilers

28. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

29. Fuel for Building 302 Boilers 1-3 shall be limited to natural gas with the exception of fuel oil combusted during maintenance firings, boiler systems and natural gas pipe lines maintenance and repair, and for periods of natural gas curtailment. Natural gas curtailment is defined as a period when the natural gas supplier imposes a curtailment or interruption of service, and the curtailment is involuntary and beyond the control of the permittee. Maintenance firings shall not exceed one percent of the previous year's annual Btu production. In addition, maintenance firings shall be scheduled between March 1st and October 31st.

Records documenting fuel usage shall be kept showing: dates that natural gas was fired, dates that fuel oil was fired, the duration in hours that fuel oil was fired, the amount of fuel oil consumed, and the reason for firing fuel oil.

Records documenting the total Btu's of all fuel fired annually and total Btu's of all fuel fired for maintenance purposes shall be maintained. That information shall be used to demonstrate that annual boiler maintenance firings do not exceed one percent of the previous year's Btu annual consumption as follows:

Annual boiler maintenance firings as a percentage of annual Btu consumption = (Total Btu's of fuel fired for annual maintenance/Total Btu's of all fuel fired in the previous year)* 100.

30. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

31. The limit of 858 MM SCF of natural gas per rolling 12-month period for all Building 302 NSPS (Boilers 1-3) shall not be exceeded:

Fuel consumption shall be determined based on a 12-month rolling total calculated by 20th day of each month using the previous 12 months data. Monthly natural gas consumption shall be determined using gas meters installed on each boiler.

Records of consumption shall be kept on a monthly basis (per approval letter from EPA Region 8, dated November 25, 2003). Records documenting boiler maintenance shall be kept and shall include: date of boiler maintenance, duration in hours, and fuel type used.

Conditions on Building 302 Diesel Emergency Generator

32. Visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations of emissions shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Student Housing-and Rice-Eccles Stadium Natural Gas-fired Equipment-Buildings 32 & 33

33. Natural gas usage shall be no greater than 165 MM SCF per 12-month rolling period. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous twelve months. Monthly calculations shall be made no later than 20 days after the end of each calendar month. For the Rice Stadium NSPS boiler, consumption shall be determined monthly (per approval letter from EPA Region 8, dated November 25, 2003) using a gas meter. For all other natural gas fired equipment, consumption shall be determined using monthly billings. Records of each 12-month rolling total of natural gas usage shall be maintained for a period of at least five years from the date of each calculation.

Conditions on Rice-Eccles Stadium NSPS Boiler-Building 32

34. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

35. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart A: General Provisions.

36. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Institutional-Institutional Steam Generating Units, with the exception of a monthly period for fuel monitoring (per approval letter from EPA Region 8, dated November 25, 2003).

Conditions on Buildings 33 - Rice-Eccles Stadium Small Boiler

37. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

Conditions on Rice-Eccles Stadium Emergency Diesel Generator

38. Visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Student Housing Emergency Diesel Generators

39. Visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Paint Booth and Print Plant Combined

40. Combined emissions of VOC from the Paint Booth and Print Plant shall not exceed 5 tons per rolling 12-month period. Combined HAP emissions from the Paint Booth and Print Plant shall not exceed 1 tons per rolling 12-month period. HAP and VOC emissions shall be calculated on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous twelve months. Monthly calculations shall be made no later than 20 days after the end of each calendar month.

VOC and HAP emissions shall be determined by maintaining a record of VOC and HAP emitting materials used each month. The records shall include the following data for each material used:

A. Name of the VOC or HAP emitting material, such as; paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.

B. Density of each material used (pounds per gallon).

C. Percent by weight of VOC and HAP in each material used.

D. Gallons of each VOC and HAP emitting material used each month.

E. The amount of VOC and individual HAP emitted monthly by each material used, calculated by the following procedure:

$$\text{VOC} = \frac{(\%\ \text{VOC by Weight})}{(100)} \times \frac{(\text{Density lb})}{(\text{gal})} \times (\text{Gal Consumed}) \times \frac{(1\ \text{ton})}{(2{,}000\ \text{lb})}$$

$$\text{HAP} = \frac{(\%\ \text{HAP by Weight})}{(100)} \times \frac{(\text{Density lb})}{(\text{gal})} \times (\text{Gal Consumed}) \times \frac{(1\ \text{ton})}{(2{,}000\ \text{lb})}$$

F. The total amount of VOC and HAP emitted monthly from all materials used.

G. The amount of VOC and HAP reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above, to provide the monthly total VOC and HAP emissions.

Conditions on Print Plant

41. Solvent wiping cloths shall be kept in covered containers when not in use.

42. Solvents containing volatile organic compounds (VOC) shall be kept in covered containers when not in use.

Conditions on Paint Booth

43. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Conditions on Building 555 - Huntsman Cancer Institute

44. Combined usage of natural gas by the boilers shall not exceed 212.1 MM SCF per rolling 12-month period. Fuel consumption shall be determined on a rolling 12-month total with a new total calculated by the 20th day of each month using data from the previous 12 months. Usage shall be determined from monthly gas bills. Records of consumption shall be maintained for a minimum of five years from the date of calculation.

Conditions on Building 555 - Huntsman Cancer Institute - NSPS Boilers

45. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

46. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart A: General Provisions.

47. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Institutional-Institutional Steam Generating Units, with the exception of a monthly period for fuel monitoring (per approval letter from EPA Region 8, dated November 25, 2003).

48. Fuel shall be limited to natural gas with the exception of fuel oil combusted during maintenance firings, boiler systems and natural gas pipe lines maintenance and repair, and for periods of natural gas curtailment. Natural gas curtailment is defined as a period when the natural gas supplier imposes a curtailment or interruption of service, and the curtailment is involuntary and beyond the control of the permittee. Maintenance firings shall not exceed one percent of the previous year's Btu production. In addition, maintenance firings shall be scheduled between March 1st and October 31st.

    Monitoring & Recordkeeping:

    Records documenting fuel usage shall be kept showing: dates that natural gas was fired, dates that fuel oil was fired, the duration in hours that fuel oil was fired, the amount of fuel oil consumed, and the reason for firing fuel oil.

    Records documenting the total Btu's of all fuel fired annually and total Btu's of all fuel fired for maintenance purposes shall be maintained. That information shall be used to demonstrate that annual boiler maintenance firings do not exceed one percent of the previous year's annual Btu consumption as follows:

    Annual boiler maintenance firings as a percentage of annual Btu consumption = (Total Btu's of fuel fired for annual maintenance/Total Btu's of all fuel fired in the previous year)* 100.

Conditions on Building 555 - Huntsman Cancer Institute - Small Boilers

49. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

50. Fuel shall be limited to natural gas with the exception of fuel oil combusted during maintenance firings and for periods of natural gas curtailment. Natural gas curtailment is defined as a period when the natural gas supplier imposes a curtailment or interruption of service, and the curtailment is involuntary and beyond the control of the permittee. Maintenance firings shall not exceed one percent of the previous year's Btu production. In addition, maintenance firings shall be scheduled between March 1st and October 31st.

Monitoring & Recordkeeping:

Records documenting fuel usage shall be kept showing: dates that natural gas was fired, dates that fuel oil was fired, the duration in hours that fuel oil was fired, the amount of fuel oil consumed, and the reason for firing fuel oil.

Records documenting the total Btu's of all fuel fired annually and total Btu's of all fuel fired for maintenance purposes shall be maintained. That information shall be used to demonstrate that annual boiler maintenance firings do not exceed one percent of the previous year's Btu consumption as follows:

Annual boiler maintenance firings as a percentage of annual Btu consumption = (Total Btu's of fuel fired for annual maintenance/Total Btu's of all fuel fired in the previous year)* 100.

Conditions on Building 555 - Huntsman Cancer Institute Diesel Emergency Generators

51. Visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Incinerator

52. Visible emissions shall be no greater than 20 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A., Method 9.

53. The permittee shall verify exemption from R307-222 (Emissions Standards: Existing Incinerator for Hospital, Medical, Infectious Wastes) by keeping readily accessible records demonstrating that only pathological, low-level radioactive, and chemotherapeutic wastes, or combination of those wastes, are being incinerated. Records shall be maintained for a minimum of five years from the date of usage.

Conditions on Fume Hoods

54. A list of fume hoods located throughout the campus shall be maintained. The list of fume hoods shall be reviewed every six months and updated as necessary.

Building 556 - Huntsman Cancer Hospital

55. Visible emissions from Boilers 1 and 2, shall be no greater than 10 percent opacity.

Monitoring & Recordkeeping:

During periods when natural gas is being burned, use of that fuel type shall be verified in lieu of monitoring via visible emissions observations.

If a boiler is operated on fuel oil for longer than 12 consecutive hours, then an opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, by a certified visible emissions observer (VEO). If the boiler continues to operate on fuel oil for consecutive days following the initial observation, an opacity determination shall be performed on a daily basis. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

56. Fuel usage for boilers 1-2 shall be limited to natural gas with the exception of fuel oil combusted only during maintenance firings, boiler systems and natural gas pipe lines maintenance, and repair and for periods of natural gas curtailment. Natural gas curtailment is defined as a period when the natural gas supplier imposes a curtailment or interruption of service and the curtailment is involuntary and beyond the control of the permittee. Maintenance firings shall be scheduled between March 1st and October 31st.

Monitoring & Recordkeeping:

Records documenting fuel usage shall be kept showing: dates that natural gas was fired, dates that fuel oil was fired, grade of fuel oil fired, the duration in hours that each fuel type was fired, and the reason for each fuel usage (e.g.: "#2 fuel oil used 12/25/03 for 30 minutes during routine maintenance firing").

57. Visible emissions from the Building 556 Emergency Diesel Generator shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Building 565- Emma –Eccles-Jones Medical Research Center

58. Visible emissions from the Building 565 NSPS Boiler shall be no greater than 10 percent opacity.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

59. The Building 565 Boiler shall only be used during maintenance firing and during periods when high temperature water from Building 302 is unavailable.

Monitoring & Recordkeeping:

Records shall be kept documenting the following information for each usage: date, duration, and reason.

60. The Building 565 NSPS Boiler shall be operated in compliance with all applicable requirements of 40 CFR 60 Subparts A and Dc.

61. Visible emission from the Building 565 Emergency Generator shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Building 550 – Clinical Neurosciences Center

62. Visible emission from the building 575 Emergency Diesel Generator shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Building 523 – John A. Moran Eye Center

Condition on John A. Moran Eye Center Emergency Generators

63. Visible emissions from the Building 523 – John A. Moran Eye Center: Emergency Diesel Generators shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Condition on John A. Moran Eye Center Small Natural Gas Fired Boiler

64. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

Building 575 – Health Sciences Education Building

65. Visible emission for the building 575 Emergency Diesel Generator shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Buildings 701 & 702, Building 12, and Building 1 Emergency Diesel Generators

66. Visible emissions from the Emergency Diesel Generators shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually for each generator in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

Conditions on Building 853 – Health Profession Education Small Boiler

67. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

Condition on Building 587 Boiler

68. Visible emissions shall be no greater than 10 percent opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Monitoring & Recordkeeping:

In lieu of visible emissions observations, records of fuel usage shall be maintained to demonstrate that only natural gas is being burned.

69. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart A: General Provisions.

70. The permittee shall comply with all applicable requirements of 40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Institutional-Institutional Steam Generating Units, including but not limited to reporting and record keeping of Section 60.48c.

Building 350-Carpentry Shop Dust Collector

71. Visible emissions shall be no greater than 10 percent opacity except for operation not exceeding 3 minutes in any hour.

Monitoring & Recordkeeping:

Opacity observations shall be conducted annually in accordance with 40 CFR 60, Appendix A, Method 9. A log of opacity determinations shall be maintained including all data required by 40 CFR 60, Appendix A, Method 9.

72. The following hours of operation limit shall not be exceeded for the carpentry shop dust collector:

1043 per rolling 12-month period

Monitoring & Recordkeeping:

Hours of operation shall be determined based on a 12-month rolling total calculated by 20th day of each month using the previous 12 months data. Monthly records documenting dust collector usage shall be kept in a log maintained by the Carpentry Shop Supervisor and they shall show the date the dust collector was used, the duration in hours of the dust collector usage.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the DAQ. The UAC R307 rules used by DAQ, the NOI guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

http://www.airquality.utah.gov/

The DAQ is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Sincerely,

Ty Howard, Manager
New Source Review Section